

Notice of Allowability

Application No.

10/717,725

Applicant(s)

KUO ET AL.

Examiner

Minh N. Tang

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on February 07, 2005.
2. ☒ The allowed claim(s) is/are 1-15.
3. ☒ The drawings filed on 19 November 2003 and 07 February 2005 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

DETAILED ACTION

1. The drawing (Fig. 1) was received on February 07, 2005. This drawing is approved.

2. Claims 1-15 are allowed over the art of record.

3. The following is an examiner's statement of reasons for allowance:

Claims 1-11 recite, inter alia, a testing circuit for thin film transistor display array testing, use to test the yield of thin film transistor display array, comprising the sense amplifier array including: a trans-impedance amplifier, is composed by a first operational amplifier, a first switch, a second switch and a first operation capacitor; said first operation capacitor feed back the output of the first operational amplifier to the negative input of the first operational amplifier; the first switch connecting to the output and negative input of the first operational amplifier, to short circuit the first operation capacitor for discharge; the second switch to be the input switch, to connect or disconnect with the pixel storage capacitor; said trans-impedance amplifier forms an integrated circuit, the output of the first operational amplifier is transmitted to a sampling/hold circuit via an output switch and converted to a digital signal; a discharge circuit for the parasitic capacitance of the source line of the thin film transistors, composed by a second operational amplifier, a third switch, a fourth switch and a second operation capacitor; said second operation capacitor feed back the output of the second operational amplifier to the negative input of the second operational amplifier; the third switch connecting to the output and negative input of the second operational amplifier, to short circuit the second operation capacitor for discharge; the fourth switch

to be the input switch, to connect or disconnect with the parasitic capacitance of the source line of the thin film transistors; a load resistance connecting the output of the second operational amplifier to the ground; said discharge circuit forms a discharge route for the parasitic capacitance.

Claim 12 recites, inter alia, a testing method for invalid pixel (invisible area) of thin film transistor display array, comprising the step of switching on input switches of the discharge circuits; switching off short circuit switches to discharge the parasitic capacitance of the thin film transistor display array (transferring the charge); switching on input switches of the sense amplifiers to start operation of the sense amplifier, integrating any current from a pixel storage capacitor of column n and row k, but do not output the result of the integrated current.

Claims 13-15 recite, inter alia, a testing method for valid pixel (visible area) of thin film transistor display array, comprising the step of switching on the input switches of sense amplifiers to start operation of the sense amplifier, integrating any current from a pixel storage capacitor of column n and row k, to integrate a voltage V_d ; switching on the input switches of discharge circuits; switching off the short circuit switch of discharge circuits to discharge the parasitic capacitance of the thin film transistor display array (transferring the charge), for testing of a next pixel.

The art of record does not disclose the above limitations, nor would it be obvious to modify the art of record so as to include the above limitations.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably


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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh N. Tang whose telephone number is (571) 272-1971. The examiner can normally be reached on M-F (7:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor R. Ramirez can be reached on (571) 272-2034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


MINH NHUTTANG
PRIMARY EXAMINER
3/04/05